

## Titration Questions

1. How many milliliters of 0.120 M HCl are needed to completely neutralize 50.0 mL of 0.101 M Ba(OH)<sub>2</sub> solution?
2. What volume of 0.128 M HCl is needed to neutralize 2.87 g of magnesium hydroxide?
3. If 25.00 mL of 0.100 M HBr is titrated with 0.200 M NaOH, how many milliliters of NaOH are required to reach the equivalence point? **DO NOT USE A CALCULATOR FOR THIS PROBLEM**
4. A sample of solid calcium hydroxide is stirred in water at 30.0°C until a saturated solution is formed. A 100. mL sample of this solution is withdrawn and titrated with 5.00x10<sup>-2</sup> M HBr. It requires 48.8 mL of the acid for neutralization. What is the molarity of the calcium hydroxide solution? What is the solubility of calcium hydroxide in water, at 30.0°C, in grams of calcium hydroxide per 100. mL of solution?
5. The quantity of chloride ions in a town water supply is determined by titrating the sample with silver ions. The endpoint of the titration is marked by a change in color of a specific type of indicator. How many grams of chloride ion are in a sample of the water if 20.2 mL of 0.100 M silver ions is needed to react with all of the chloride ions in the sample. If the sample has a mass of 10.0 g, what percent of chloride does it contain?